

REMARKS

Claims 1-9 and 11-12 currently appear in this application. The Office Action of June 17, 2005, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicants respectfully request favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

Interview Summary

Applicant's attorney wishes to thank Examiner Johnson for the courtesies extended during the personal interview July 14, 2005, with Mr. James Gordon, General Kevin Sharpe, and the undersigned.

During the interview, samples of the product having cells of varying sizes and shapes were demonstrated. All of the products are sufficiently flexible to be arranged into any desired shape. A video was shown demonstrating the efficacy of the product at mitigating blasts.

Claims 1-9 were discussed with respect to rejections made based upon Symons, U.S. Patent No. 5,309,690; Pfistershammer, U.S. Patent No. 2,738,297; and Abbott, U.S. Patent No. 3,491,847.

During the interview it was agreed that the claims would be amended to emphasize that the assembly is flexible.

Examiner Johnson promised that, if the amendments submitted were not sufficient to place the claims into condition for allowance, he would suggest language to overcome the art rejections.

It is clear from the specification and claims that the assembly of the present invention is flexible, and claim 1 has been amended to recite "A flexible assembly..." Symons discloses a composite panel, which is used for wall partitioning (column 1, lines 21-26) which has a good strength to weight ratio, constructed of materials which have the necessary stiffness, impact resistance,...

Likewise, Pfistershammer is a structural material having a lattice like form and consisting at least in part of a component of great strength and ductility (column 1, lines 16-23). At column 4, lines 65-74, Pfistershammer describes the structural material being used to produce armor plate. The armor plate should be constructed with sufficient rigidity to build up several sheets into a laminated body, and to arrange the sheets so that the depressions of one sheet overlies the elevations of another sheet. At column 6, lines 7-9, Pfistershammer states that "in order to replace structural materials, e.g., steel or concrete by a structural element of this kind describer..." It is clear that the Pfistershammer material is rigid, not flexible.

Abbott describes an explosion cover in the form of a protective pad to be secured about the transmission and bell housing of a vehicle. This cover, as described at column 2, lines 42-59, provides an elongated sleeve for enclosing a plurality of layers of ballistic textile plastic material sheets which are loosely arranged adjacent one another in an ordered stack. The cover is folded about structure enclosing the parts of the vehicle sensitive to explosion so that the warp of the fabric extends in the direction of moving part rotation while the woof of the fabric extends transverse thereto. The sleeve is retained on the structure in intimate contact therewith by a series of spaced apart straps extending along the longitudinal axis of the cover. The opposite and opposing ends of the straps are secured by a double buckle arrangement so that the cover is form-fitted about the vehicle part covered structure in close surface contact therewith. A pair of anchor straps are coupled between the cover and bolts normally employed to secure the vehicle parts enclosing structure to other supporting structure carried on the vehicle. It is clear that the Abbott cover, while flexible, does not have cells or recesses which contain shock-attenuating material.

Applicant agreed to file a Request for Continued Examination along with an amendment defining the invention over the prior art, namely, that the present invention

comprises a flexible assembly made of superposed flexible sheets having cells or recesses in the space between the sheets, wherein the cells or recesses are filled with shock-attenuating material. If the amendments made were not sufficient to define over the cited art, Examiner Johnson promised to provide claim language that would define the present invention over the cited references.

Election

It is noted that applicant has elected with traverse species A, directed to an assembly in which the shock attenuating material is perlite. However, it should be noted that the invention is not limited to an assembly in which the shock attenuating material is perlite or another material, but is directed to an assembly in which the shock attenuating material has the flow properties of a liquid, as recited in claim 1. Rejoinder of claims 3,4 and 6 is respectfully requested.

Art Rejections

Claims 1, 2, 5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Symons.

This rejection is respectfully traversed. Claim 1, and therefore the claims dependent therefrom, has been amended to claim a flexible assembly... comprising two flexible sheets arranged one over the other... Support for this can be found in

the specification as filed at paragraph 21, "Of particular importance is the fact that the assembly of the present invention is flexible and can be used to surround any configuration." In contrast thereto, Symons discloses a panel which may be used as a building panel (column 1, lines 2-5).

Contrary to the Examiner's assertions, Figure 4 shows a composite panel comprising a first sheet and a second sheet of impregnated corrugated cardboard or kraft paper. The impregnating material is a thermosetting resin, which is a hard resin that does not melt. Note at column 6, lines 9-15, that the construction of the composite panel with the two sheets having the core sandwiched therebetween, provides a composite panel with a sufficient degree of rigidity... A rigid panel is not flexible.

Figure 7 also depicts a rigid panel, not a flexible assembly. Column 6, lines 41-46, describes a composite panel comprising a first sheet and a second sheet formed from corrugated cardboard impregnated with a liquid composition, and having sandwiched therebetween a core, each of the cells of the core being filled with a filler composition. Note at column 4, lines 58-58, that the thermosetting resin is polymerized to give the cellular core the required degree of rigidity. Thus, Figure 7 also depicts a rigid panel.

Figure 9 is a composite panel comprising a first sheet and a second sheet of a multiply kraft paper impregnated

with a liquid composition. As noted above, the impregnating liquid is a thermosetting polymer which, when polymerized, imparts rigidity to the panel. The present invention is directed to a flexible assembly, and there is nothing in Symons that even suggests that the panels described therein are flexible.

Claims 1-2, 5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfistershammer in view of Symons.

This rejection is respectfully traversed. The Examiner cites Symons column 5, lines 12-20, as disclosing fillers with the flow properties of a liquid. This is not the case at all. Symons discloses a number of inorganic insulating materials, but there is no disclosure nor suggestion that these materials are of particle sizes that they have the flow properties of a liquid. The present application defines the flow properties of a fluid at paragraph 25, referring to the ability of the attenuating medium to act in the nature of a liquid mass to resist relative displacement by surface tension and viscous forces, and the ability to substantially scatter and disperse pressure conditions transmitted therethrough by virtue of multitudinous curves surfaces dividing gaseous and solid or liquid and solid phases, and enabling the generation of turbulent flow fields by transmitting pressure conditions. More briefly, these

terms may be taken as referring to the ability to resist applied shear forces in the nature of fluid viscosity. The attenuating medium assumes the shape of the cells or recesses, while at the same time resisting applied shear forces in the nature of viscosity. There is nothing in either Symons or Pfistershammer that even suggests such properties for the fillers used therein. Even though the fillers may be the same compounds, there is nothing in Symons or Pfistershammer that describes the fillers as being of particle size and in such amount that they have the mechanical and flow properties of a fluid. Neither Symons nor Pfistershammer suggests that the filler have such properties; it is not known whether the filler is in the form of particles that have these flow properties. Also, the filler must be free to flow within the cells, which means that the cells cannot be completely filled so that the particles cannot move. This is not contemplated by either Symons or Pfistershammer.

With respect to elastic deformity under stress, this is not the same as being flexible. The structural materials of Pfistershammer are at least in part of great strength and ductility, at least part of the material being formed in such a manner as to provide curved lines of stress in every direction of stress of the structure (column 1, lines 15-23). The elastic deformability of the Pfistershammer structural

materials make it possible for the materials to resist stress, but this is not to say that these materials are flexible so that they can be wrapped around any shape of structure.

Claims 1, 5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Abbott.

This rejection is respectfully traversed. Abbott discloses a protective pad to be secured about the transmission and bell housing of a vehicle. The pockets of Abbott contain a petroleum absorbent material to prevent petroleum from leaking out and catching on fire or flowing over the road. Examples of this petroleum absorbent material are rice and rice powder. The petroleum absorbent material is present solely to absorb petroleum to prevent fire or explosion. This is not at all the same as the present invention, in which the cells enclose shock attenuating material. Abbott prevents explosions or fires by absorbing petroleum leaking from the transmission and bell housing of a vehicle, while the present invention attenuates explosive force, but does not prevent an explosion from occurring by absorbing the fuel that contributes to the explosion.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

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Respectfully submitted,

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